

<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) <b>HOI-25902/16</b>	
	Application Number <b>09/806,457</b>	Filed <b>June 14, 2001</b>	
	First Named Inventor <b>Christian Caspersen</b>		
	Art Unit <b>2884</b>	Examiner <b>Shun K. Lee</b>	
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p><input type="checkbox"/> applicant /inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/95)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>31,005</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____</p> </div> <div style="width: 35%; text-align: center;"> <p>_____ /Ronald W. Citkowski/ Signature</p> <p>_____ Ronald W. Citkowski Typed or printed name</p> <p>_____ (248) 647-6000 Telephone number</p> <p>_____ December 21, 2009 Date</p> </div> </div> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>			
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.			

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Christian Caspersen

Application No.: 09/806,457

Confirmation No.: 1421

Filed: June 14, 2001

Art Unit: 2884

For: APPARATUS FOR DETERMINING THE  
POSITION OF AN OBJECT

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Examiner: Shun K. Lee

**PRE-APPEAL BRIEF REQUEST FOR REVIEW STATEMENT OF ARGUMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellant has filed a notice of appeal and requests a pre-appeal brief review of the issues pending on appeal. Appellant presents herewith a discussion of those issues.

**Background**

This invention is a system which uses bright-field optics to scan a large area specimen to detect the presence and position of fluorescent objects in a high-noise background. Pending claims stand rejected under 35 U.S.C. §103.

**The Prior Art Based Rejection**

**Argument No. 1: The combination of Malin and Hamashima provides no basis for the rejection of the pending claims.**

Claims 1, 7, 9, 11, 12, 23, 24, 27 and 48 stand rejected under 35 U.S.C. §103 as being obvious in view of U.S. Patent 5,377,002 of Malin taken in view of U.S. Patent 4,744,663 of Hamashima. The remaining claims at issue stand rejected as being obvious over Malin and Hamashima taken further in view of secondary prior art references. In rejecting the claims the Examiner has held that Malin shows all elements of the presently claimed invention except for (1) a system in which a first light beam has a diameter of 20-150 microns and (2) a system which includes a dichroic mirror which reflects the first light beam but allows fluorescent light emitted by the sample under investigation to pass therethrough. The Examiner has held that since Malin teaches that the light beam used therein should be greater than 1

micron in diameter, it would be obvious to use a light beam of 20-150 microns. The Examiner has further held that it would be obvious in view of the teaching of Hamashima to include a dichroic mirror into the apparatus of Malin so as to approximate the present invention.

With regard to the issue of the light spot, Hamashima does state that the light spot is larger than 1 micron; however, there is no further teaching of spot size therein, and nothing in the prior art suggests utilizing the very much larger spot size of Appellant's invention. As made clear in the present application, the claimed 20-150 micron spot diameter is critical to obtaining a high signal-to-noise ratio since the fluorescent emissions being measured by the present system are typically very weak. Malin does not recognize this need and provides no suggestion or solution for this purpose. As noted by Appellant in prior responses, the law makes very clear that a parameter must first be recognized in the prior art as a result-effective variable before an Examiner can argue that selection of a range is merely "optimization" (MPEP 2144.05.II.B). Such teaching is not found in the prior art; hence, there is no motivation to select Appellant's claimed size range.

Secondly, it is not obvious, or possible, for one of skill in the art to combine the Malin and Hamashima systems as suggested by the Examiner so as to approximate the presently claimed invention. The Examiner is ignoring the fact that the Malin prior art is directed to a dark field microscopy system which is very different from, and in fact diametrically opposed to, Appellant's bright field optical system. Modification of the Malin system by the inclusion of a dichroic mirror therein would not approximate the presently claimed invention in terms of either form or function and would destroy the operation of the Malin system.

If the dichroic mirror is used as an additional component to the Malin system in combination with the dark field stop, then the dichroic mirror would not collect the directly transmitted light. The resultant system will be inoperative; also, it will not read upon the claimed invention. Alternatively, substituting the dichroic mirror for the dark field stop of Malin would completely change and destroy its operation; and, as previously cited to the Examiner and as is well known in the art, the proposed modification cannot change a principle of operation of a reference (MPEP 2143.01.VI).

**Argument No. 2: The Examiner has failed to give proper consideration to the expert affidavit submitted under 37 CFR 1.132.**

As part of the response to the Office Action of March 11, 2009, and the Advisory Action mailed July 22, 2009, Appellant submitted the affidavit of Affidavit of Professor Preben Buchhave under 37 CFR 1.132. Professor Buchhave has a Ph.D. in physics and is an expert in the field of optics. The affidavit was submitted with regard to the Examiner's position that it would be obvious to modify the dark field optical system of Malin so as to include a dichroic mirror of the type shown in Hamashima so as to provide an optical system which would be operative to obtain fluorescence measurements in a high-noise environment. (With regard to the foregoing, please refer to paragraphs 1-4 of the affidavit.)

In paragraphs 4-9 of the affidavit, Professor Buchhave differentiates the structure, operation and object of the dark field optical system of Malin from that of the fluorescence based bright field system of the present invention.

In paragraphs 10 and 11 of the affidavit, Professor Buchhave presents details of a study which he carried out which demonstrates that fluorescence of bodies in a sample (the parameter measured by the present invention) could not be detected utilizing a dark field stop based microscopy assembly of the type used in Malin. The stated conclusion of the study is that a dark field optical system is incapable of being used for the detection of fluorescent signals.

As summarized in paragraphs 14 and 15, it is Professor Buchhave's conclusion that addition of the dichroic mirror of Hamashima to the apparatus of Malin will not result in an optical system which can measure fluorescence in a sample, and which reads upon the claims at issue. As further detailed in the affidavit, if the apparatus of Malin were to be operative to measure fluorescence, it would have to be deconstructed by removal of the dark field stop thereby disrupting its basic operational principle.

Thus the conclusion of the affidavit is that the combination of Malin and Hamashima would not provide an optical system which corresponds to, or functions in accord with, the presently claimed invention. Alternatively, reconstruction of the present invention from the various components of the Malin and Hamashima references would require modification of the Malin apparatus by elimination of the dark stop which would destroy the stated and desired operation of the Malin apparatus.

The evidence presented in this affidavit is relevant to the issues of patentability of the presently pending claims and must be taken into consideration. The Court of Appeals for the Federal Circuit in the case of *In re Sullivan et al.*, slip op. 2006-1507 S.N. 08/405,454 (CAFC 2008) held that the Board of Appeals committed error when it failed to give consideration on the record to evidence submitted in the form of expert affidavits presented with regard to the issue of obviousness of an invention in view of the prior art. The Manual of Patent Examining Procedure likewise requires that timely presented objective evidence in the form of affidavits or declarations directed to the issue of nonobviousness must be given consideration by the Examiner (MPEP 716.01(a)).

In the subject Office Action mailed September 22, 2009, the Examiner has not given proper weight or consideration to the affidavit evidence. In pages 12-18 of the Office Action, the Examiner provides remarks addressing the points raised in the affidavit. The remarks are also restated, by implication, in pages 18-27 of the Office Action. Despite the magnitude of the Examiner's remarks, they do not meaningfully address, or give serious consideration to, the content of the affidavit. The Examiner's remarks amount to a piecemeal mischaracterization of the affidavit and include numerous errors of interpretation. Page limitations of this request do not allow for a detailed analysis of the Examiner's errors and mischaracterizations; however, Appellant will discuss several such instances.

On page 13, in the central portion of the first full paragraph, the Examiner presents a highly edited quotation taken from column 6, lines 36-59 of the Malin patent. The quotation is asserted to contradict Professor Buchhave's assertion that Figure 1 of his affidavit presents a dark field microscopy system which "emulates that of Malin". Appellant respectfully submits that the Examiner's "quotation" is very unclear and in no way supports the Examiner's assertion.

The first sentence of the final paragraph of page 13 is a clear misstatement of fact. In this sentence the Examiner states that the affidavit asserts that the Malin system includes a ratio of 16/24 as the dark field aperture. The affidavit includes no such statement. The Malin patent is silent to any dark field aperture ratio. What is being referred to in the affidavit is the dark field ratio of the experimental system used in the described study conducted by Professor Buchhave.

Similar errors are found on page 15 in the last paragraph, in which the Examiner states that the Figure 1 optical system of the affidavit includes “no obstruction in the fluorescence collection”. Such is not the case. The affidavit clearly shows a system which includes a direct illumination block as well as a dark field patch stop. In the second paragraph of page 15, the Examiner makes a strong, argumentative, statement that the claimed apparatus is not configured according to Figure 1 of the affidavit. While this is in fact true since the claimed apparatus is not a dark field apparatus, it is irrelevant to the analysis and misleading.

The first full paragraph of page 16 presents a technical discussion of the content of paragraph 13 of the affidavit. With all due respect, Appellant asserts that this paragraph is highly conclusory, based upon the Examiner’s unsupported opinion, and makes no technical sense. The second full paragraph on page 16 follows and makes a bold assertion that “the experiments presented by declarant clearly fails demonstrate [sic] that a dark field upright microscope is incapable of detecting fluorescent signals.” In making this statement the Examiner (1) directly contradicts the discussion and conclusion in the affidavit; and in doing so (2) substitutes his own opinion and analysis for that of the expert declarant. The law requires that the Examiner give full and reasonable consideration to the content of the declaration, and clearly such has not been the case here.

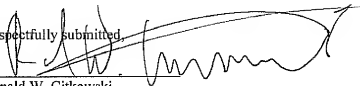
### Conclusion

Appellant respectfully requests that the Board review the sufficiency and merits of the prior art rejections, the content and quality of the declaration, and the content and quality of the Examiner’s remarks and allow the pending claims thereover.

Dated:

Respectfully submitted,

By

  
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